

Four Corners Air Quality Task Force

Oil and Gas Matrix: Work Plan Development Tool

(Includes examples of mitigation options for demonstration purposes only)

Source	Pollutant	Nitrogen Oxide	Sulfur Dioxide	Carbon Monoxide	Particulate Matter	VOCs/HAPs (Ozone)	Greenhouse Gases
	AQ Issue	PH, Viz, Dep	PH, Viz, Dep	PH	PH, Viz	PH,	CC
All Engines		Lean Burn Engines	Low/ultra low sulfur fuel	Catalytic converters	Particulate trap on diesel engine	Oxidation catalysts	Minimize blowdowns
Exploration/ Production		Flareless completions	N/A	Hauling efficiencies	Centralized 3 phase gathering systems	Flareless completions	Install instrument air
Compressor Stations, Gas Plants, Transmission and Storage Facilities		Operating parameters for combustors	N/A	Insulate tanks and separators	Dust control plans	Install Vapor Recovery	Minimize venting
Refineries		Low NOx burners on boilers and heaters	N/A (covered by SFO*)	Catalytic converters on turbines	ESP at catalyst regeneration stack	Leak detection and repair	??

* The Giant refineries near Gallup and Bloomfield NM are subject to a Stipulated Final Order (SFO) that is the result of a settlement agreement between Giant, the NMED and the U.S. EPA (effective as of August 1, 2005).

PH: Public Health – Refers to potential risks to human health as a result of exposure to air pollutants.

Viz: Visibility – Refers to how well one can see (distance, color, and clarity)

Dep: Atmospheric Deposition – Results from airborne chemical compounds settling onto land or water surfaces resulting in acid rain and nutrient loading.

CC: Climate Change – A change of climate, which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere.

Engines – Includes all engines used in the oil and gas industry; i.e. compressor engines, pump engines, drill rig engines, engine for electric generation, small hp engines (50 – 300) and large hp engines (300 – 3000+).

Natural Gas Exploration/Production – Refers to the upstream sector of the oil and gas industry. Includes all activities from drilling the well, completing the well, and putting the well on-line. Specific equipment includes but is not limited to oil tanks, condensate tanks, well-head dehydrators, drip pots, slop tanks, and heater treaters. (All engines typically included in this category will be covered in the engine category.)

Compressor Stations – These facilities utilized compressor engines to boost the pressure of field gas and move it to gas processing plants. For purposes of this group, the types of activities covered include, but are not limited to, dehydrators, condensate storage tanks, slop tanks, flaring, and venting. (All engines typically included in this category will be covered in the engine category.)

Gas Plants – These facilities are designed to recover Natural Gas Liquids (NGLs) from a natural gas stream utilizing refrigeration and/or Joule-Thompson processes. They also include NGL fractionation, dehydration, CO2 removal, condensate stabilization, etc. For purposes of this group, the types of activities covered include, but are not limited to, Amine units, dehydrators, NGL storage tanks, NGL loadout, fugitive VOCs, flaring and venting. (All engines typically included in this category will be covered in the engine category.)

Transmission/Storage Stations - These facilities compress and store pipeline quality natural gas. For purposes of this group, the types of activities covered include, but are not limited, dehydration, condensate storage tanks, condensate loadout, pigging operations, etc. (All engines typically included in this category will be covered in the engine category.)

Refineries – An industrial process that processes crude oil and other petroleum products. The activities include product heating, crude oil separation, product delivery, product loadout, fractionation, catalytic cracking, water treatment and flaring.